

## ABSTRACT

[0049] A micro-lens array with reduced or no empty space between individual micro-lenses and a method for forming same. The micro-lens array is formed by patterning a first set of micro-lens material in a checkerboard pattern on a substrate. The first set of micro-lens material is reflowed and cured into first micro-lenses impervious to subsequent reflows. Then, a second set of micro-lens material is patterned in spaces among the first micro-lenses, reflowed and cured into second micro-lenses. The reflows and cures can be conducted under different conditions, and the micro-lenses may be differently sized. The conditions of the reflows can be chosen to ensure that the focal lengths of micro-lenses are optimized for maximum sensor signal.